

REMARKS

In the Office Action dated November 22, 2005, claims 1, 4-9, 11 and 12 are pending, claims 1 and 4-9 are allowed, claims 11 and 12 are rejected. Applicants appreciate the indication of allowable subject matter in at least claims 1 and 4-9. Applicants also appreciate the withdrawal of the prior final rejection.

The above amendment is submitted to more particularly point out and distinctly claim the subject matter regarded as invention. Support for the amendment can be found in the original application, particularly with respect to FIGs. 9-10 and the related disclosure. Entering of the amendment is requested.

Claim 11 is rejected under 35 U.S.C. §103(a) over Miyazaki et al (JP 10-333121) in view of Yamamoto et al (US 5,696,568). The Examiner admits that Miyazaki et al do not necessarily teach that "said thickness [of the liquid crystal layer in each pixel] changes continuously." However, the Examiner states that "it would have been obvious to include said limitation in view of Yamamoto et al, who, . . . teach a continuous change of the thickness of liquid crystal layer."

Applicants strongly disagree.

Claim 11 recites a liquid crystal display device wherein:

in each of the plurality of pixels, a thickness d of the liquid crystal layer changes continuously, and the liquid crystal layer includes a plurality of regions having different values of a first threshold voltage for transitioning the liquid crystal layer from the planar state to the focal conic state.

Clearly, this claim language refers to the to the display area of the pixel.

To the contrary, Yamamoto is directed to providing a black matrix in the non-display region where the black matrix is formed in a taper shape. There is not even a hint of a suggestion in Yamamoto that

in each of the plurality of pixels, a thickness d of the liquid crystal layer changes continuously, and the liquid crystal layer includes a plurality of regions having different values of a first threshold voltage for transitioning the liquid crystal layer from the planar state to the focal conic state,

as set forth in Claim 11. Indeed, in Yamamoto, the thickness of the liquid crystal layer in the display region is constant.

Further, it is not seen how one of ordinary skill in the art would have combined Miyazaki with Yamamoto to arrive at the present invention. In Miyazaki, each of the display regions of a pixel has two discrete thickness values for the liquid crystal material. If one of ordinary skill in the art were to combine Yamamoto with Miyazaki, in accord with the combined teachings, the combination would have two discrete thickness values for the liquid crystal material in the display region in accord with Miyazaki and a black matrix in the non-display region where the black matrix is formed in a taper shape in accord with Yamamoto. However, **the combination would not have** provided:

in each of the plurality of pixels, a thickness d of the liquid crystal layer changes continuously, and the liquid crystal layer includes a plurality of regions having different values of a first threshold voltage for transitioning the liquid crystal layer from the planar state to the focal conic state,

as claimed herein.

Thus, it is not seen how the present invention would have been obvious to one of ordinary skill in the art in view of Miyazaki and Yamamoto.

Claims 11 and 12 are rejected under 35 U.S.C. §103(a) over Miyazaki et al (JP 10-333121) in view of Ikeno et al (US 6,008,875). The Examiner admits that Miyazaki et al do not necessarily teach that "said thickness [of the liquid crystal layer in each pixel] changes continuously." However, the Examiner states that "it would have been obvious to include said limitation in view of Ikeno et al, who . . . teach the thickness of the liquid crystal display to vary continuously . . . in a wavy shape . . ." However, although Ikeno has a wavy shape at a

microscopic level, the voltage to light transmittance characteristics of each pixel still show a sharp rise in transmittance with a small change in voltage as illustrated in Fig. 5. To the contrary, the present invention provides each pixel with a gradual rise in transmittance as voltage increases as illustrated in FIG. 10 of the present application.

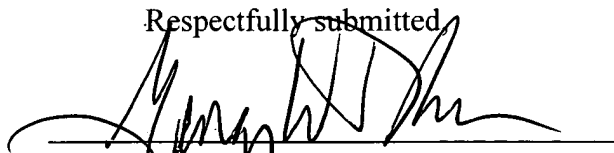
Thus, Ikeno fails to disclose a structure providing the effect obtained using the structure of the present invention.

Thus, it is not seen how the present invention would have been obvious to one of ordinary skill in the art in view of Miyazaki and Ikeno.

In view of the above discussion, it is respectfully submitted that the present application is in condition for allowance. An early reconsideration and notice of allowance are earnestly solicited.

If for any reason an additional fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge or to refund Deposit Account No. **04-1105**.

Respectfully submitted



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